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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/593,069	09/15/2006	Karl-Heinz Schumacher	295113US0PCT	6478

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EXAMINER	
SASTRI, SATYA B	
ART UNIT	PAPER NUMBER
1796	

NOTIFICATION DATE	DELIVERY MODE
01/27/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/593,069	SCHUMACHER ET AL.	
	Examiner	Art Unit	
	SATYA B. SASTRI	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 November 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *11,13-16,18 and 20-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *11,13-16,18 and 20-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☒ Other: *JP61268782, English translation*.

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/20/09 has been entered. Claims 11, 13-16, 18, 20-22 are now pending in the application.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 16 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The scope of the claim that recites an article according to claim 11 (which comprises an adhesive) as a pressure sensitive adhesive.

Previously Cited Statutes

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishikawa et al. (JP 09176605A, English translation).

Prior art to Ishikawa et al. discloses water-based pressure sensitive adhesive compositions. The adhesive compositions contain a water-based dispersion of a copolymer prepared by emulsion polymerization of a monomer mixture consisting of 0.1 to 10 wt.% of polyfunctional unsaturated monomers, 0.1 to 15 wt.% of α, β-unsaturated acids, 0.5 to 20 wt.% of vinyl acetate and 55 to 99.39 wt.% of other unsaturated monomer (first invention, 0004).

Disclosed polyfunctional unsaturated monomers include ethylene glycol di(meth)acrylates, propylene glycol di(meth)acrylate, 1, 4-butylene glycol di(meth)acrylate, 1, 6-hexane glycol di(meth)acrylate. The preferred range of the disclosed polyfunctional unsaturated monomers is 0.05 to 5 wt.% and more preferably, 0.1 to 2 wt.% (0006). The presently recited alkanodiol di(meth)acrylate monomer of claim 11 reads on the disclosed species, i.e. ethylene glycol di(meth)acrylates, propylene glycol di(meth)acrylate, 1, 4-butylene glycol di(meth)acrylate and 1, 6-hexane glycol di(meth)acrylate.

As for the other unsaturated monomers, alkyl(meth)acrylates with 1-10 carbon atoms are preferred and should be in the range of 55-99.39%, preferably 60-90 wt.% (0012).

Working examples in the Table 1 disclose copolymers comprising alkyl(meth)acrylates within the presently claimed range (of claim 11), include hydrophilic acid comonomers as presently claimed obtained by emulsion polymerization with ammonium persulphate as free radical initiator (0018, page 20).

The prior art fails to disclose compositions comprising copolymers obtained from more than 1% of monomers having at least two nonconjugated polymerizable vinyl groups in the monomer mixture as presently claimed.

Given the broad teaching that copolymers are obtained from 0.01 to 10 wt.%, preferably 0.05 to 5 wt.% of polyfunctional unsaturated monomers and given the substantial overlap between the disclosed range of 0.01 to 10% by wt. and presently recited range of more than 1% by wt., it would have been obvious to one of ordinary skill in the art to include any amount of polyfunctional monomer including in amounts within the overlapping range, and to include any of the disclosed polyfunctional unsaturated monomers, including ethylene glycol di(meth)acrylates, propylene glycol di(meth)acrylate, 1, 4-butylene glycol di(meth)acrylate and 1, 6-hexane glycol di(meth)acrylate and thereby arrive at the presently claimed invention. In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a *prima facie* case of obviousness exists. *In re Wertheim,* 541 F.2d 257, 191 USPQ 90 (CCPA 1976). See MPEP § 2144.05.

6. Claims 11, 13-16, 18, 20, 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishikawa et al. (JP 09176605A, English translation) in view of Kimihiro (JP 10-316774, Machine translation).

The discussion with regard to Ishikawa et al. set forth above in paragraph 3 is incorporated herein by reference.

The Ishikawa et al. reference is silent with regard to the use of adhesive on plasticized PVC films.

Plasticized PVC is routinely used as the backing material in the adhesive industry. For instance, Kimihiro discloses self-adhesive sheets comprising plasticized polyvinyl chloride sheets. The plasticized polyvinyl sheet material is prepared by compounding vinyl chloride resin with a plasticizer in the presence of fatty acid amide and acrylic oligomer that serve as lubricants. The plasticized PVC sheets may be coated with adhesives such as acrylic rubber type binder system (0020). Given the teaching that such plasticized PVC sheets have good processability and a good hand tearabilty for use in medical self-adhesive tapes, electrical insulation tapes, binding tapes etc. (abstract), it would have been obvious to one of ordinary skill in the art to utilize such plasticized PVC sheets with adhesive compositions of Ishikawa et al. and thereby arrive at the presently cited claim.

7. Claims 11, 13-16, 18, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugii et al. (JP 61268782, English translation).

Sugii et al. disclose surface protective sheet made by coating and drying water emulsion type pressure sensitive bonding agent composition on one side of soft polyvinyl chloride sheet. The bonding agent composition is obtained by polymerizing (meth)acrylic alkyl ester and a multifunctional monomer having two or more ethylene double bonds in amounts of 0.1 to 10 parts relative to 100 parts of the main monomer (page 2).

The disclosed soft polyvinyl chloride sheet has flexibility, heat resistance and oil resistance and is obtained by compounding about 20 to 40 parts of plasticizer such as dioctyl phthalate, dibutyl phthalate relative to 100 parts of polyvinyl chloride (page 9, page 14, example 1). Additionally, the emulsion type pressure sensitive adhesive polymer comprises 75 parts of

isobutyl acrylate, 5 parts of acrylic acid and 3 parts of polyethylene glycol as the polyfunctional crosslinking agent.

The prior art fails to disclose adhesive polymers comprising alkanediol di(meth)acrylates as presently claimed.

The general disclosure of Sugii et al. discloses that multifunctional monomers such as ethylene glycol di(meth)acrylate, polyethylene glycol di(meth)acrylate etc. may be used in the monomer mixture (page 11). Thus, given the teaching on functional equivalence and interchangeability of the various multifunctional monomer, it would have been obvious to one of ordinary skill in the art to include any the equivalent monomers, including ethylene glycol di(meth)acrylate in lieu of polyethylene glycol di(meth)acrylate in example 1, based on their art recognized equivalence with a reasonable expectation of success. In the instant case, substitution of equivalent methods Sugii et al. requires no express motivation, as long as the prior art recognizes equivalency. *In re Ruff* 118 USPQ 343 (CCPA 1958).

8. Claims 11, 13, 14, 16, 18, 20, 21, 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mayer et al. (US 5,420,195).

Mayer et al. disclose water resistant, removable PSA based on acrylic polymer emulsions comprising 85 to 97% of alkyl acrylate, up to 3% of polar monomer and up to about 1% by wt. of internal crosslinking agent. Disclosed polar monomers include amides, carboxylic acid and hydroxy functional groups. Additionally, disclosed internal crosslinking agents include hexanediol diacrylate, propyleneglycol diacrylate (ab., col. 3, lines 1-45, 64-67). The polymers are produced by free radical emulsion polymerization (col. 4, lines 24-36).

The prior art fails to disclose compositions comprising more than 1% by wt. of alkanediol di(meth)acrylate as presently claimed.

Mayer et al. disclose a value of about 1% by wt. of internal crosslinking agents such as hexanediol diacrylate and propyleneglycol diacrylate. Since the term 'about" permits some tolerances, it would have been obvious to one of ordinary skill in the art to include about 1% by wt. of internal crosslinking agent and thereby arrive at the present invention.

It is noted that the lower limit of 1.1 as recited in claim 13 reads on about 1% by wt. Although the disclosed range does not overlap the presently claimed range of more than 1% by wt., it is the examiner's position that the values are close enough that one of ordinary skill in the art would have expected the same properties. Case law holds that a *prima facie* case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985). Should applicant argue criticality of more than 1% by wt. of the monomer with at least two nonconjugated vinyl groups, it will be noted that applicants' data on page 12 compares copolymers having 1.3% by wt. of monomer with at least two nonconjugated vinyl groups and a copolymer that does not include any crosslinker and such comparative data has little or no probative value.

With regard to claim 15, it is noted that the prior art discloses the use of up to 2% of external crosslinking agent. Up to includes 0 as a lower limit. *In re Mochel*, 470 F 2d 638, 176 USPQ 194 (CCPA 1974).

Response to Arguments

9. In view of the amendment, rejection of claims 11, 13-16 under 35 U.S.C. 102(b) as anticipated by Samour et al. (US 3,400,103) is withdrawn. However, applicant's arguments with regard to the obviousness rejections over Ishikawa et al. alone, or in view of Kimihiro et al. are not found persuasive. As such, the Ishikawa et al. reference recognizes the use of acrylic PSAs on PVC films. Additionally, the secondary reference to Kimihiro et al. recognizes that acrylic rubbers may be coated as adhesives on plasticized PVC sheets and the resultant self-adhesive tapes have good processability and a good hand tearabilty for use in medical self-adhesive tapes, electrical insulation tapes, binding tapes etc. (ab.). Thus, it would have been within the level of ordinary skill in the art to coat the PSAs for Ishikawa et al. on plasticized PVC films as taught by Kimihiro et al., so as to obtain self adhesive articles good processability and a good hand tearabilty with a reasonable expectation of success.

Applicant's arguments on superior properties of presently recited adhesives on plasticized PVC substrates are not found persuasive and as such, lack data to support unexpected results when presently recited multifunctional monomers are used in the PSA composition.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Satya Sastri at (571) 272 1112. The examiner can be reached on Mondays, Thursdays and Fridays, 7AM-5.30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. David Wu can be reached on 571-272-1114.

The fax phone number for the organization where this application or proceeding is assigned is (571) 273 8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Satya B Sastri/

Examiner, Art Unit 1796